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INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY

Hungary

SUBJECT

Research Development and Use of Vacuum Evaporation Processes and Equipment

DATE DISTRIBUTED

30 October 1957

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SUPPLEMENT TO REPORT #

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THIS IS UNEVALUATED INFORMATION

Hungary was further advanced in some techniques than the other satellite countries. 25X1

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2. The major accomplishments in vacuum technical research in Hungary were:

a. Complete vacuum evaporation equipment, evacuated space ranging from 20-1000 l.

b. Oil diffusion pumps with ultimate vacua of 5×10^{-6} mm Hg and with a capacity of 5-20, 50, 250, 1500 l/sec.

c. Thermoelectric and cold cathode ionization gauges.

d. The manufacture of silvered mica condensers with the vacuum evaporation process.

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e. Silver coating of gramaphone disc matrix with vacuum evaporation equipment.

f. Mass production of surface coatings such as aluminum coating on headlight reflectors with the vacuum evaporation process.

g. Production of optical surface coatings with vacuum evaporation equipment.

h. Production of selenium rectifiers with vacuum evaporation equipment.

i. Evaporation gilding of piezioelectric crystals.

j. Evaporation of the inner alumminized surface of infrared reflectors and cathode ray tubes.

3. The following were in the experimental stage as of December 1956:

a. Molecular distillation and freeze drying equipment.

b. Development of automatic fluorescent lamp producing apparatus.

c. Vacuum technical problems associated with Titanium production.

d. Vacuum technical problems of atomphysical apparatus, mass spectrometers, and accelerators.

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A. "VAKUUMGOZOLESTECHNIKA IPARAI ALKALMAZASAI" (literal translation - Industrial Application of Vacuum Evaporation Techniques). Original pamphlet was printed on mimeograph paper by mimeo or similar process, measured 8 x 11 inches, and had a gray cover. Photography was done with a Leica Mark III camera using a Kodak 2-plus portra lens. Subject to lens distance was 17⅞ inches and exposure was 1/100th second at f-11 using two #2 photoflood lamps.

B. "SZELENEGYENIRANYITOK ELEMENTE ES ELOALLASA" (literal translation - Selenium Rectifier Theory and Application). Original pamphlet measured 7 3/4 x 5½ inches, was printed on mimeograph paper by mimeo process, and had a pink cover. Photographic data same as "A" above.

C. "NAGYVAKUUM BERENDEZESEK UJABB IPARI ALKALMAZASAI" (literal translation - High Vacuum Systems and Recent Industrial Applications). Original pamphlet measured 7 3/4 x 5½ inches, was printed on mimeo paper by mimeo process, and had a pink cover. Photographic data same as "A" above.

D. "NAGYVAKUUM BERENDEZESEK" (literal translation - High Vacuum Installations). This spiral notebook was compiled as a catalog to describe and identify high vacuum equipment available in Hungary. It measured 4 x 6 inches, had photographic prints bound by two spiral binders, and had a green leatherette cover. Photographic data same as "A" above except for lens to subject distance which was 11¼ inches.

E. "VAKUUMGOZOLESTECHNIKA" (literal translation - Vacuum Evaporation Techniques). This magazine article appeared in the December 1954 issue of Magyar Technika. Magazine measured 11¼ x 8 inches, was lithographed, and had an orange cover. Photography was done with C-6 type camera with a Kodak 2-plus portra lens, exposure was 1/100th second at f-11 with two #2 photoflood lamps, lens to subject distance was 14 inches.

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